



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

- 1 Butler P. A million volunteer to help NHS and others during COVID-19 outbreak. *The Guardian*, April 13, 2020.
- 2 Villadiego L. Spaniards find beauty in helping each other amid COVID-19 crisis. *Al Jazeera*, March 23, 2020. <https://www.aljazeera.com/indepth/features/spaniards-find-beauty-helping-covid-19-crisis-200319105933362.html> (accessed April 30, 2020).
- 3 WHO. The global strategy for women's, children's and adolescents' health (2016–2030). Geneva: World Health Organization, 2015.
- 4 UNAIDS. Rights in the time of COVID-19. Lessons from HIV for an effective, community-led response. Geneva: UNAIDS, 2020.
- 5 Marston C, Hinton R, Kean S, et al. Community participation for transformative action on women's, children's and adolescents' health. *Bull World Health Organ* 2016; **94**: 376–82.
- 6 European Parliamentary Forum for Sexual and Reproductive Rights, International Planned Parenthood Federation European Network. Sexual and reproductive health and rights during the COVID-19 pandemic: a joint report by EPF & IPPF EN. April 22, 2020. <https://www.ippfen.org/sites/ippfen/files/2020-04/Sexual%20and%20Reproductive%20Health%20during%20the%20COVID-19%20pandemic.pdf> (accessed April 30, 2020).
- 7 Gregson S, Nyamukapa CA, Sherr L, Mugurungi O, Campbell C. Grassroots community organizations' contribution to the scale-up of HIV testing and counselling services in Zimbabwe. *AIDS* 2013; **27**: 1657–66.
- 8 Nguyen V-K, Ako CY, Niamba P, Sylla A, Tiendrebeogo I. Adherence as therapeutic citizenship: impact of the history of access to antiretroviral drugs on adherence to treatment. *AIDS* 2007; **21** (suppl 5): S31–35.
- 9 Nguyen V-K. Antiretroviral globalism, biopolitics, and therapeutic citizenship In: Ong A, Collier SJ, eds. *Global assemblages: technology, politics, and ethics as anthropological problems*. Oxford: Blackwell Publishing, 2005: 124–44.
- 10 Gillespie AM, Obregon R, El Asawi R, et al. Social mobilization and community engagement central to the Ebola response in west Africa: lessons for future public health emergencies. *Glob Health Sci Pract* 2016; **4**: 626–46.
- 11 Miles S, Renedo A, Marston C. "Slow co-production" for deeper patient involvement in health care. *J Health Des* 2018; **3**: 57–62.
- 12 Dasgupta J. Ten years of negotiating rights around maternal health in Uttar Pradesh, India. *BMC Int Health Hum Rights* 2011; **11** (suppl 3): S4.
- 13 Renedo A, Marston C. Spaces for citizen involvement in healthcare: an ethnographic study. *Sociology* 2015; **49**: 488–504.
- 14 Guareschi PA, Jovchelovitch S. Participation, health and the development of community resources in Southern Brazil. *J Health Psychol* 2004; **9**: 311–22.
- 15 UK Government HM Revenue and Customs. Guidance: claim a grant through the coronavirus (COVID-19) Self-employment Income Support Scheme. April 21, 2020. <https://www.gov.uk/guidance/claim-a-grant-through-the-coronavirus-covid-19-self-employment-income-support-scheme> (accessed April 30, 2020).
- 16 Laker L. Milan announces ambitious scheme to reduce car use after lockdown. *The Guardian*, April 23, 2020.
- 17 UK Government Department of Health and Social Care. Rt Hon Matt Hancock MP. Decision: temporary approval of home use for both stages of early medical abortion. 2020. <https://www.gov.uk/government/publications/temporary-approval-of-home-use-for-both-stages-of-early-medical-abortion--2> (accessed April 30, 2020).
- 18 Campbell C, Cornish F. Towards a "fourth generation" of approaches to HIV/AIDS management: creating contexts for effective community mobilisation. *Aids Care* 2010; **22**: 1569–79.



Prevention and control of non-communicable diseases in the COVID-19 response

Published Online
May 8, 2020
[https://doi.org/10.1016/S0140-6736\(20\)31067-9](https://doi.org/10.1016/S0140-6736(20)31067-9)

Moving towards universal health coverage, promoting health and wellbeing, and protecting against health emergencies are the WHO global priorities¹ that are shared by the proposed WHO European Programme of Work 2020–25.² The coronavirus disease 2019 (COVID-19) pandemic has underlined the importance of interconnecting these strategic priorities. Of the six WHO regions, the European region is the most affected by non-communicable disease (NCD)-related morbidity and mortality³ and the growth of the NCDs is concerning. Cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes are among the leading causes of death and disability in the region,³ and an increasing proportion of children and adults are living with overweight or obesity,⁴ one of the major risk factors for NCDs. Prevention and control of NCDs are important during this pandemic because NCDs are major risk factors for patients with COVID-19.⁵ Additionally, some of the restrictive measures such as lockdowns, social distancing, and travel restrictions to reduce the spread of infection in many countries impact specifically on people living with NCDs by limiting their activity, ability

to secure healthy foods, and access to preventive or health promotion services.⁶

The COVID-19 pandemic has had widespread health impacts, revealing the particular vulnerability of those with underlying conditions. In Italy, a recent report revealed that the majority (96.2%) of patients who have died in-hospital from COVID-19 had comorbidities, primarily NCDs; the most prevalent NCDs among these patients were hypertension (69.2%), type 2 diabetes (31.8%), ischaemic heart disease (28.2%), chronic obstructive pulmonary disease (16.9%), and cancer (16.3%).⁷ An association between COVID-19 severity and NCDs has also been reported in Spain,⁸ China,⁹ and the USA.¹⁰ However, many COVID-19 deaths also occur in older people who often have existing comorbidities.¹¹ Body-mass index (BMI) might also be associated with the severity of COVID-19; in China, patients with severe COVID-19 and non-survivors typically had a high BMI (>25 kg/m²).¹²

The impact of COVID-19 response measures on NCDs is multifaceted. Physical distancing or quarantine can lead to poor management of NCD behavioural risk factors, including unhealthy diet, physical inactivity, tobacco

NCD-specific responses		Associated risks
Community transmission with containment measures such as physical distancing and public service and institution closures or restrictions		
Lengthened time spent indoors	Use technology to provide knowledge and support for management of NCDs, online information on exercise and mental health self-management classes, healthy recipes for home preparation, and online delivery of healthy foods, among other responses	Reduced physical activity and increased strain on mental health might result in greater consumption of unhealthy foods and harmful use of tobacco and alcohol
Family members at home	Provide special arrangements for families with NCD patients to self-isolate	Risk of increased contact with younger family members at home
Inadequate access to medicines	Use telemedicine more, allow local or community doctors and pharmacists to renew or extend drug prescriptions, deliver essential NCD drugs to home	Shortage of essential medicines such as insulin and other NCD-specific medications
Transport and other services restricted	Prioritise and ensure continued community level services in a safe way to cater for NCD patients' needs	Restricted transport facilities and family support for continued NCD care
Infection control		
Early detection and laboratory testing	Prioritise NCD patients for COVID-19 testing; triaging should take account of whether patients have NCDs and are immunocompromised	Those NCD patients for whom visits to health facilities are essential could be at greater risk of getting exposed to COVID-19
Contact tracing	Focus especially on those with increased risk factors for NCDs and NCD patients (ie, patients living with obesity) and alert and follow up closely any possible contacts for NCD patients	NCD patients might be unaware of the additional risks posed on them
Extensive testing	Prioritise NCD patients for testing when possible and promote the need for testing	NCD patients might be less motivated or able to actively seek testing (in a safe, physically distanced manner)
Health-care settings (infection control)	Provide NCD patients and health-care staff working in NCD services with special training and personal protective equipment, as well as health-care professionals at increased risk of NCDs	NCD patients with comorbidities are at increased risk of infection; health-care staff working in NCD clinics are therefore also at increased risk of infection
NCD=non-communicable disease. COVID-19=coronavirus disease 2019.		
Table: Responses and risks related to NCD prevention and control during the COVID-19 pandemic		

use, and harmful use of alcohol.¹³ Evidence from this and previous pandemics suggests that without proper management, chronic conditions can worsen due to stressful situations resulting from restrictions, insecure economic situations, and changes in normal health behaviours. As with other health service and preventive programmes, the postponement of routine medical appointments and tests can delay NCD management, while physical distancing, restricted access to primary health care units, pharmacies, and community services, alongside a reduction of transport links, all disrupt continuity of care for NCD patients. This disruption of routine health services and medical supplies risks increasing morbidity, disability, and avoidable mortality over time in NCD patients. Additionally, patients with severe obesity who require intensive care have increased patient management needs.⁶

The prevention and control of NCDs have a crucial role in the COVID-19 response and an adaptive response is required to account for the needs of people with NCDs. Prevention of NCDs is important since the true scale of at-risk groups is probably underestimated, given that many cases of hypertension and diabetes are undiagnosed.^{14,15} Communities and health systems need to be adaptive to both support and manage the increased risks of people with known NCDs and exercise sensitivity about the

vulnerability of the large population with undiagnosed NCDs and those at increased risk of NCDs.

The COVID-19 response and continued and strengthened focus on NCD prevention and management are key and interlinked aspects of public health at the present time. If the COVID-19 response is not adapted to encompass prevention and management of NCD risks, we will fail many people at a time when their vulnerability is heightened. What steps should be taken to adapt the COVID-19 response? The WHO Regional Office for Europe has started to develop a list of actions that could be adapted by countries to address the needs of those at risk of NCDs or who are already living with NCDs, together with practical considerations for teams developing COVID-19 response plans at local or national levels (table).

Patients living with obesity and NCDs are at increased risk of the health impacts of emergencies such as COVID-19.¹⁶ NCD health-care staff and associated workers and volunteers should be centrally involved in the planning of COVID-19 response strategies to ensure that the needs of patients and caregivers are addressed. Specific advice should be made available nationally and locally for patients living with NCDs, their families, and their caregivers. Prevention and control

of obesity and NCDs are crucial in preparedness for this and future public health threats. A streamlined response to COVID-19 in the context of NCDs is important to optimise public health outcomes and reduce the impacts of this pandemic on individuals, vulnerable groups, key workers, and society.

HHPK is Regional Director of the WHO Regional Office for Europe. JB is the Head of the WHO European Office for the Prevention and Control of Noncommunicable Diseases. KW is a technical officer and HLR and RM are consultants at the WHO European Office for the Prevention and Control of Noncommunicable Diseases. AK is the Deputy Director of the National Medical Research Center for Therapy and Preventive Medicine, Russia. We declare no other competing interests. The authors alone are responsible for the views expressed in this Comment and they do not necessarily represent the views, decisions, or policies of the institutions with which they are affiliated.

© 2020. World Health Organization. Published by Elsevier Ltd/Inc/BV. All rights reserved.

Hans Henri P Kluge, *Kremlin Wickramasinghe, Holly L Rippin, Romeu Mendes, David H Peters, Anna Kontsevaya, Joao Breda wickramasinghek@who.int

WHO Regional Office for Europe, Copenhagen, Denmark (HHPK); WHO European Office for the Prevention and Control of Noncommunicable Diseases, Moscow 125009, Russia (KW, HLR, RM, JB); EPIUnit, Instituto de Saúde Pública, Universidade do Porto, Porto, Portugal (RM); Johns Hopkins University Bloomberg School of Public Health, Baltimore, MD, USA (DHP); and National Medical Research Center for Therapy and Preventive Medicine, Moscow, Russia (AK)

- 1 WHO. The Thirteenth General Programme of Work, 2019–2023. Geneva: World Health Organization, 2019.
- 2 Kluge H. A new vision for WHO's European Region: united action for better health. *Lancet Public Health* 2020; **5**: e133–34.
- 3 WHO. Noncommunicable diseases country profiles 2018. Geneva: World Health Organization, 2018.

- 4 WHO. Overweight. European Health Information Gateway. 2018. https://gateway.euro.who.int/en/indicators/h2020_6-overweight/visualizations/#id=17077 (accessed May 5, 2020).
- 5 Wang B, Li R, Lu Z, Huang Y. Does comorbidity increase the risk of patients with COVID-19: evidence from meta-analysis. *Aging (Albany NY)* 2020; **12**: 6049–57.
- 6 WHO. Noncommunicable diseases in emergencies. Geneva: World Health Organization, 2016.
- 7 Istituto Superiore di Sanità. Characteristics of SARS-CoV-2 patients dying in Italy. Report based on available data on April 29, 2020. COVID-19. 2020. https://www.epicentro.iss.it/en/coronavirus/bollettino/Report-COVID-2019_29_april_2020.pdf (accessed May 5, 2020).
- 8 Instituto de Salud Carlos III. Informe COVID-19 nº 28. 04 de mayo de 2020. Informe sobre la situación de COVID-19 en España. 2020. <https://www.isciii.es/QueHacemos/Servicios/VigilanciaSaludPublicaRENAVE/EnfermedadesTransmisibles/Paginas/InformesCOVID-19.aspx> (accessed May 5, 2020).
- 9 Novel Coronavirus Pneumonia Emergency Response Epidemiology Team. The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19)—China, 2020. *China CDC Weekly* 2020; **2**: 113–22.
- 10 Richardson S, Hirsch JS, Narasimhan M, et al. Presenting characteristics, comorbidities, and outcomes among 5700 patients hospitalized with COVID-19 in the New York City area. *JAMA* 2020; published online April 22. DOI:10.1001/jama.2020.6775.
- 11 Jordan RE, Adab P, Cheng KK. COVID-19-19: risk factors for severe disease and death. *BMJ* 2020; **368**: m1198.
- 12 Peng YD, Meng K, Guan HQ, et al. Clinical characteristics and outcomes of 112 cardiovascular disease patients infected by 2019-nCoV. *Zhonghua Xin Xue Guan Bing Za Zhi* 2020; **48**: E004.
- 13 Venema V. Coronavirus: should I worry about my lockdown eating? *BBC News*, April 25, 2020. <https://www.bbc.com/news/stories-52329529> (accessed May 5, 2020).
- 14 Williams B, Mancia G, Spiering W, et al. 2018 ESC/ESH guidelines for the management of arterial hypertension. *Eur Heart J* 2018; **39**: 3021–104.
- 15 International Diabetes Federation. IDF diabetes atlas, 9th edn. Brussels: International Diabetes Federation, 2019.
- 16 Ryan DH, Ravussin E, Heymsfield S. COVID 19 and the patient with obesity—the editors speak out. *Obesity* 2020; **28**: 847.



Justice and health: *The Lancet*–Health Equity and Policy Lab Commission

Justice forms the foundation for what we owe each other and what fairness among human beings and institutions involves. Globally, there are large inequalities in health outcomes and opportunities for health. Not only is the global burden of disease distributed unevenly but capabilities to prevent and treat disease are also asymmetrical; those in greatest need often have the least access to human, physical, and financial resources for health. Global health justice provides an account of what justice across our planet embodies, offers solutions to global health problems, and identifies who has responsibilities and what those responsibilities entail for addressing these problems.¹

How do questions of justice across national boundaries relate to global health? What is the best theoretical

approach to global health—global egalitarianism, extended nationalism, limited globalism, or other theoretical frameworks? Are global health arrangements fair and, if not, how should they be reformed? What does reducing global health inequalities require? Do duties of global health justice exist? If they do, how are they identified and defined? What distributive principles—priority, sufficiency, or equality—should apply to global health? How much priority do disadvantaged groups merit? How should responsibilities for addressing global health injustices be allocated and who should bear the costs? What is the nature and degree of global and national actors' responsibilities? As individual and collective agents, we cannot turn away from injustice.²